

REMARKS

This Amendment responds to the Office Action dated August 8, 2006. Applicant is appreciative of Examiner granting Applicant's Request for Reconsideration on this pending case. By way of this amendment, claims 34, 40 and 41 have been amended. Applicant respectfully submits that the amended claims more precisely define Applicant's invention. Applicant submits that no new matter has been added (see ¶ [0021] for support for "paint") and that the new claims do not subject an undue burden upon the Examiner to examine. Accordingly, in light of the foregoing amendments to the claims and the following remarks, Applicant respectfully submits that claims 34-41 are presently under consideration and in condition for allowance.

35 U.S.C. § 103(a) REJECTIONS

Claims 34-39 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tuckey (US Patent Number 5,727,529) in view of Yamagishi et al. (US Patent Number 6,003,876), and in further view of Hisada (US Patent Number 3,834,231). Also, claims 40-41 are rejected over Tuckey in view of Yamagishi et al. and Hansen et al., and further in view of Scott et al. (US Patent Number 4,488,341). Applicant respectfully traverses these rejections and submits that newly amended claims 34-41 are now distinguished from the cited prior art and define patentable subject matter. Specifically, claim 34 has been amended, in part, to recite "a pair of flanges cooperatively arranged to form the actuator housing, each flange being coated with a resin-containing *paint*... and... an actuator diaphragm compressively retained between the flanges...held under sufficient compression to produce a bond between

the plasticizer in the diaphragm and the resin-containing *paint* on the flanges for increased retention of the actuator diaphragm between the flanges.”

Similarly, claims 40 and 41 have been amended to recite “the resin-containing *paint* comprises a polymer or copolymer selected from the group consisting of a polyester, polyether, polyacrylic, polyurethane, latex, alkyd, epoxy, or combination thereof” and “the resin-containing *paint* is selected from the group consisting of a polyurethane, polyethylene terephthalate, polybutylene terephthalate, an alkyd resin, and an epoxy resin”, respectively.

That is, it can be appreciated by one of ordinary skill in the art that the flanges of the present invention are generally coated with a paint composition, not an adhesive per se as shown in the cited prior art. It should be further appreciated that the coated actuator surfaces, including the flanges, provide an aesthetic feature to the flanges that mitigates the effects of the surrounding environment in which the actuator is used. Applicants assert that it is not known, either expressly or inherently in the art to use the same paint coating as a component to substantially improve the retention of a rubber diaphragm disposed therebetween. The unexpected bonding that occurs provides superior performance over the prior art in that a continuous bond is formed about the periphery of the flanges without the necessity of preparation of additional bonding agents or processes traditionally contemplated. See para. [0022].

Applicant submits that in order to establish a *prima facie* case of obviousness, three fundamental criteria must be met: 1) there must be a suggestion or motivation in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the prior art reference(s)

must teach or suggest all the claim limitations. Based upon the teachings of the cited prior art, Applicant respectfully submits that neither the first nor the third of these criteria have been met. That is, to support the inference that Applicant's claimed invention is obvious with respect to the cited references, the references must either be expressly or impliedly suggested the claimed invention or within the office action, a convincing line of reasoning must be presented as to why one of ordinary skill in the art would have found the invention, as claimed, to have been obvious. See *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The cited references and the present office action provide no such line of reasoning. The prior art must disclose at least a suggestion of an incentive for a claimed combination of elements in order to establish a *prima facie* case of obviousness.

Clearly, none of the references, in combination or individually, teach, suggest or motivate the bonding action between a painted surfaced of a flange resulting from the diffusion of a sufficiently soluble plasticizer present in the diaphragm substrate, as now claimed by Applicant. Therefore, Applicants submit that for at least these reasons there is simply no teaching in the combined references that would rendered Applicant's claimed invention obvious and therefore any rejections based on this proposed combination of references should be withdrawn. See *In re Sernaker*, 217 U.S.P.Q. 1 (Fed. Cir. 1983); see also *Ex parte Clapp* at 973. Applicant respectfully submits that the present amendments overcome the alleged obviousness rejections and claims 34-41 are now in condition for allowance

Additionally, Applicant is unclear as to whether the office action alleges inherency and/or a knowledge common to one of ordinary skill in the art stating that "one of ordinary skill in the art would have found it obvious to secure the membrane with adhesive in order to prevent slippage of the membrane." In regards to an

alleged inherency of the claimed subject matter, Applicant agrees with the assertion that it is known in the art to use a separate adhesive to secure a membrane to a flange, but Applicant refutes any assertion that it is inherent that a paint coating may provide a component to an adhesive, as now claimed.

As stated in the MPEP, Section 2112, the Examiner must provide Applicant with a rationale or evidence tending to show inherency. That is, "the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." *See In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993); *see also In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *See In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted). Further, "[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). In regard to the foregoing, Applicant respectfully asserts that in view of the cited art, individually or in combination, there is no teaching, express or inherent, regarding the painting of any of the surfaces and, more specifically, the selection of such paint coatings and diaphragm plasticizer based upon the solubility thereof to form an improved bond between the flange(s) the diaphragm. That is, the

application of a separate epoxy-based adhesive, or for that matter, any type of adhesive does not inherently propose the bonding action as described and claimed by Applicant. Applicant respectfully requests that the examiner provide the requisite extrinsic evidence and/or technical reasoning regarding the paint/plasticizer bonding, as now claimed.

Further, if the office action alleges the subject matter missing in the cited references is common knowledge within the art, Applicants respectfully traverse the allegations as well. As stated in the MPEP 2144. 03, "[i]t would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of ... specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art. See *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21; see also *In re Grose*, 592 F.2d 1161, 1167-68, 201 USPQ 57, 63 (CCPA 1979) ("[W]hen the PTO seeks to rely upon a chemical theory, in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of that theory."); see also *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697.

Specifically, Applicant submits that, as evidenced by the lack of support in any of the references cited throughout the entire prosecution of this application, it is wholly uncommon to those skilled in the art to use attributes of a paint as component in an actuator housing to form an adhesive bond therebetween. One skilled in the art appreciates that paint coatings are commonly applied to form a protective layer on the external surface of an actuator flange to mitigate the corrosive effects of the surrounding environment. Further, it is also known that a plasticizer incorporated

within the rubber diaphragm is commonly included to improve the flexibility of the rubber compounds. Applicant respectfully asserts that in view of the cited art and knowledge possessed by one of ordinary skill in the art that it is unknown, and is novel and nonobvious to use a resin-containing paint coating and a plasticizer component in a rubber diaphragm coating to preferentially form an adhesive bond therebetween to secure the diaphragm to an actuator housing flange. Alternatively, if the Examiner has knowledge of any such references, the Applicant respectfully requests a citation of those references in the following office action.

Reiterating, the bonding action disclosed by the Applicant is the result of an unexpected interaction between a plasticizer, used for providing the low temperature performance of the hardened rubber composition, and resin-containing paint with sufficient solubility with the plasticizer such that under the claimed conditions an improved retention results. Applicant respectfully asserts that based upon the foregoing, there is insufficient showing of inherency in the present office action and, as such, any alleged claims of inherency should be withdrawn.

CONCLUSION

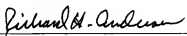
For the reasons stated above, Applicants submit that the specification and claims are in proper form and clearly define patentability over the prior art. Therefore, reconsideration of the application is respectfully requested. If, in the opinion of the Examiner a telephone conference would expedite prosecution of the subject application, the Examiner is invited to call the undersigned attorney. The Commissioner is directed to charge or debit any additional fees or refunds required, to Deposit Account No. 13-2855 of Marshall, Gerstein & Borun LLP.

Appl. No. 10/712,549
Amdt. Dated: November 6, 2006
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Respectfully submitted,

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